VERSION WITH MARKINGS TO SHOW CHANGES MADE:

IN THE SPECIFICATION:

Amend paragraph [0011] as follows:

[0011] -- In case of greater axis heights, it has been found advantageous in the technical aspect to arrange the magnets at the air gap and not in the rotor plate section, whereby the permanent magnets are disposed on the ~~upper~~ outer surface of the rotor plate in such a way that these magnets are disposed, during the assembly of the rotor in a stator, at the air gap between the rotor and the stator. Due to this, *inter alia*, a larger active-part utilization is achieved.--.

Amend paragraph [0012] as follows:

[0012] -- For reasons of utilization and for the purpose of an enhanced upper field behavior, the pole gaps are preferably configured in such a way that a pole coverage of the ~~upper~~ outer surface of the rotor plate with permanent magnets is in the range of from about 70% to about 80%.--.

Amend paragraph [0018] as follows:

[0018] --The concept of the invention provides the design of a permanent magnet excited electric drive with a stator with a three~~-wire rotary field~~ phase stator winding with a predetermined pole pair and with a rotor in accordance with the invention, which drive satisfies the above-mentioned requirements of a main drive, whereby such a drive can be operated, by way of field weakening at

varying number or rotations, in a range of constant efficiency or capacity or output.--.

Amend paragraph [0027] as follows:

[0027] -- In the illustration of FIG. 1, there is shown a portion of a development or lay-out of a rotor (longitudinal section) in accordance with the invention, with open pole gaps P1, P2 directly at the air gap SP. The air gap SP between the stator S and the rotor plate L has the width of $\ddot{a}\delta_g$. The pole gaps P1 and P2 are directly provided at the air gap SP, by being milled or punched into the rotor plate pack and they comprise, for example, a rectangular cross-section, whereby the depth h_p of the pole gaps with respect to the width $\ddot{a}\delta_g$ of the air gap SP is advantageously dimensioned to be large, according to:--.

Amend paragraph [0028] as follows:

[0028] --$h_p > \ddot{a}\delta_g$ (2).--.

Amend paragraph [0031] as follows:

[0031] -- In the presentation of FIG. 1, this relationship is expressed thereby that the distance τ_p between – as a rule being equidistant – the pole gaps P1 and P2 is dimensioned in such a way that approximately the mentioned 70% to 80% of the ~~upper~~ outer surface of the rotor plate pack L is covered by permanent magnets SE. These are precisely the portions disposed between two pole gaps, that is, the poles as such. For reasons of protection, the entire outer

surface or, respectively, the ~~upper~~ outer surface O of the rotor atop the permanent magnets SE, is covered with an additional binding B.--.

Amend paragraph [0036] as follows:

[0036] -- The illustration in accordance with FIG. 4 corresponds largely to that of FIG. 1, however, due to reasons dictated by the design, the ~~upper~~ outer surface O of the rotor is substantially stable or uniform, since atop of the pole gaps P1, P2 there are provided web portions ST1, ST2 made of rotor plate . In the embodiment shown in FIG. 4, furthermore – as is the case with the embodiment of FIG. 3 – the ~~rotor upper~~ outer surface O is fully furnished with SE magnets.--.

IN THE CLAIMS:

Claim 4 is canceled.

Claims 1-3 and 5-11 have been amended as follows:

1. (Amended) A permanent magnet excited rotor[,] for an electric drive and disposed in a stator at formation of an air gap therebetween, comprising:

a rotor plate pack composed of a plurality of rotor plate sections and defining a transverse axis; and

a plurality of permanent magnets arranged on an outer surface of the rotor plate pack;

wherein ~~at least one~~ each of the rotor plate ~~section~~ sections of said rotor plate pack ~~comprises~~ has pole gaps to increase ~~the~~ a magnetic transverse

resistance ~~for~~ in a direction of the transverse axis ~~of said rotor,~~ wherein the pole gaps have a depth which is greater than a width of the air gap between the rotor and the stator.

2. (Amended) The permanent magnet excited rotor of claim 1 disposed in a stator at formation of an air gap therebetween, wherein[:] ~~said~~ the plurality of permanent magnets ~~of said rotor~~ is disposed on the ~~upper~~ outer surface of a ~~pertaining~~ rotor plate pack in ~~such a way that said plurality of permanent magnets, during assembly said rotor, are arranged in a stator at the corresponding~~ the area of the air gap between ~~said~~ the rotor and ~~said~~ the stator.

3. (Amended) The permanent magnetic excited rotor of claim 2, wherein[:] ~~said~~ the pole gaps are disposed such a manner that there is present a pole coverage of the ~~upper~~ outer surface of ~~said~~ rotor plate pack by ~~said~~ the plurality of permanent magnets, with a coverage by ~~said~~ the plurality of permanent magnets in the range of from ~~about~~ 70% to ~~about~~ 80 %.

5. (Amended) The permanent magnet excited rotor of claim 4 1, wherein[:] ~~said~~ the pole gaps are disposed in ~~said~~ the rotor plate pack in substantially equidistant manner.

6. (Amended) The permanent magnet excited rotor of claim ~~5~~ 2, wherein[:] ~~said~~ the pole gaps are directly disposed ~~at said~~ in the area of the air gap~~, particularly that they are configured in the upper surface of said rotor plate pack by at least one of: milling, stamping, and punching~~.

7. (Amended) The permanent magnet excited rotor of claim ~~6~~ 1, wherein[:] ~~said~~ the pole gaps are disposed in covered manner in ~~said~~ the rotor plate section~~, particularly that they are provided in said rotor plate pack by a punching operation~~.

8. (Amended) The Permanent magnet excited rotor of claim 7, wherein[:] ~~said~~ the pole gaps are substantially filled by a material that is substantially amagnetic.

9. (Amended) The permanent magnet excited rotor of claim ~~8~~ 1, wherein[:] ~~said plurality of~~ the permanent magnets ~~comprises~~ are rare-earth permanent magnets.

10. (Amended) A permanent magnet excited electric drive, comprising:

a stator ~~comprising~~ including a ~~three-wire rotary field~~ three-phase stator winding ~~of~~ with a predetermined number of pole pairs; and

~~said~~ a rotor ~~of claim 1~~ including a rotor plate pack formed with pole gaps to increase the magnetic transverse resistance in a direction of a transverse axis of the rotor, and a plurality of permanent magnets received peripherally by the rotor plate pack[;], wherein the pole gaps have a depth which is greater than a width of the air gap between the rotor and the stator, said rotor ~~comprising the~~ including a same number of pole pairs as ~~said~~ the stator ~~comprising a three-wire rotary field winding of a predetermined number of pole pairs~~.

11. (Amended) The permanent magnet excited electric drive of claim ~~9~~ 10, ~~wherein: said drive is~~ configured ~~to be driven in a range of constant capacity by way of~~ for operation at constant power through field weakening at variable ~~number of rotations~~ rotation speed.

Claim 12-14 have been added.

IN THE DRAWING:

FIGS. 1, 4 have been amended as per copy enclosed and indicated in red.

REMARKS

The last Office Action of September 25, 2002 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1 to 11 are pending in the application. Claim 4 has been canceled. Claims 1-3, 5-11 have been amended. Claims 12-14 have been added. No fee is due. Enclosed is also a marked-up version of the changes made to the specification and claims by the current amendment. The enclosed page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**".

It is noted that the drawings are objected to because of an informality. Drawing proposals showing the required changes are submitted herewith together with a communication to the draftsman.

It is further noted that claims 3-11 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-2 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 5,828,152 (hereinafter "Takeda et al.").

Claims 3-8 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Takeda et al. in view of U.S. Pat. No. 5,233,250 (hereinafter "De Fillipis").

Claims 9 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Takeda et al. in view of De Fillipis, and further in view of U.S. Pat. No. 6,144,130 (hereinafter "Kawamura").

OBJECTION TO THE DRAWING

Applicant has made amendments to the FIG. 1 and 4, as suggested by the Examiner. Withdrawal of the objection to the drawing is thus respectfully requested.

REJECTION UNDER 35 U.S.C. §112, SECOND PARAGRAPH

Applicant has amended claims 3, 10, and 11 to address the objection raised by the Examiner. In claim 3, the reference to "about" has been deleted. Claim 10 has been amended by replacing the term "three-wire rotary field winding" with --three-phase stator winding-- for sake of clarity. Claim 11 has been reworded to more clearly set forth the subject matter. The specification has been amended to make it consistent with the changes to claim 10. These changes are self-explanatory and do not involve new matter.

Withdrawal of the rejection of the claims 3-11 under 35 U.S.C. §112, second paragraph is thus respectfully requested.

REJECTION OF CLAIMS 1-2 UNDER 35 U.S.C. §102(b) AS BEING ANTICIPATED BY TAKEDA ET AL

The rejection under 35 U.S.C. 102(b) is respectfully traversed.

The present invention, as set forth in claim 1, now on file, is directed to a rotor configuration in the form of a rotor plate pack comprised of a rotor plate sections which are each formed with pole gaps to thereby increase the magnetic transverse resistance. As a consequence, the magnetic transverse resistance is increased. The pole gaps are formed immediately adjacent to the air gap between the rotor and the enclosing stator, or may be formed within the rotor section. The permanent magnets are arranged on the outer surface of the rotor plate pack and may be secured in place by a binding. In order to realize an increase of the transverse resistance, the pole gaps are configured in a way that their depth is greater than the width of the air gap between the rotor and the stator. Thus, the inventor has recognized the correlation between the increase of the transverse resistance, on the one hand, and the respective relationship between pole gap depth and air gap width, on the other hand.

In order to better encompass the subject matter of the present invention, applicant has amended claim 1 by essentially incorporating the subject matter of original claim 4 and expressly setting forth this correlation. In amending claim 1, great care has also be taken to provide antecedent basis for all elements recited. These changes are cosmetic in nature and do not narrow the claim to trigger prosecution history estoppel.

The Takeda et al. reference describes a rotor in the form of a stacking of rotor plates, with a plurality of permanent magnets arranged on the outer surface of the stacked rotor plates. In order to secure the permanent magnets in place, plastic fixing members are inserted into respective apart grooves of the rotor plates. In this way, the permanent magnets are prevented from getting dislodged from the rotor as a result of centrifugal forces. Thus, without these fixing members, the motor will no longer operate properly. As these plastic fixing members only negligibly influence the rotor plate, they are not suitable to effectively increase the magnetic transverse resistance.

The Examiner noted that "*Takeda et al. also show the pertaining depth of said pole gaps in said rotor plate being greater than the pertaining width of said air gap between said rotor, mounted in said stator, and said stator.*". Applicant respectfully disagrees.

Takeda et al. cited the importance of the gap between the rotor and the stator (col. 2, lines 41, 42) and in particular mentions the drawback of conventional fixing methods for the permanent magnets, as a result of projections (col. 3, lines 21-29). The prevention of such projections and bead formation during heat treatment is the objective of Takeda et al. Nothing in Takeda et al. would indicate any reference, expressly or inherently, to the increase of the magnetic transverse resistance and the relationship between the depth of the pole gaps and the width of the air gap, as set forth in claim 1.

For the reasons set forth above, it is applicant's contention that Takeda et al. neither teaches nor suggests the features of the present invention, as recited in claim 1.

As for the rejection of the dependent claim 2, this claim depends on claim 1, share its presumably allowable features, and therefore it is respectfully submitted that these claims should also be allowed.

Withdrawal of the rejection of claims 1-2 under 35 U.S.C. §102(b) and allowance thereof are thus respectfully requested.

REJECTION OF CLAIMS 3-11 UNDER 35 U.S.C. §103(a)

The rejection under 35 U.S.C. 103(a) is respectfully traversed.

The present invention, as set forth in claim 10, now on file, is directed to a permanent magnet excited electric drive which includes a stator and a rotor, as set forth in claim 1. Thus, the novel and inventive features of claim 1 are also included in claim 10.

The Takeda et al. reference has been discussed above.

The De Filippis reference describes a three-phase motor with a rotor having an array of permanent magnets which appear to cover 67% of the outer surface of the rotor plate. However, the frame (7) for securement of the permanent magnets lacks any constructive features to increase the magnetic transverse resistance and the relationship between the depth of the pole gaps and the width of the air gap, as now set forth in amended claim 10.

Also the Kawamura reference is silent to the configuration of the rotor plate with any structural features to increase the magnetic transverse resistance.

For the reasons set forth above, it is applicant's contention that neither Takeda et al. nor De Filippis, nor Kawamura, nor any combination thereof teaches or suggests the features of the present invention, as recited in claim 10.

As for the rejection of dependent claims 3-7, 9 and 11-14, these claims depend on claims 1 and 10, respectively, share their presumably allowable features, and therefore it is respectfully submitted that these claims should also be allowed.

Withdrawal of the rejection under 35 U.S.C. §103(a) and allowance of claims 3-7, 9-14 are thus respectfully requested.

CLARIFICATION AMENDMENT

Applicant has amended claims 2 to 3 and 5 to 9 to provide proper antecedent basis for all elements recited and to remove any indefiniteness of the claims. These changes are cosmetic in nature and do not narrow the claim elements to trigger prosecution history estoppel. Please note that newly submitted claims 12 and 13 set forth features of claims 6, 7 which were deleted from these claims. Claim 14 has been added to set forth the binding for securing the permanent magnets in place.

The specification has been amended to replace the term "upper surface" with --outer surface-- to better reflect the meaning of the German term

"Oberfläche" and also because the specification does not refer to a lower surface. These changes are self-explanatory and do not contain any new matter.

CITED REFERENCES

Applicant has also carefully scrutinized the further cited prior art and finds it without any relevance to the newly submitted claims. It is thus felt that no specific discussion thereof is necessary.

CONCLUSION

Applicant believes that when the Examiner reconsiders the claims in the light of the above comments, he will agree that the invention is in no way properly met or anticipated or even suggested by any of the references however they are considered.

In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the

Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant would greatly appreciate such a telephone interview.

Respectfully submitted,

By: _____
Henry M. Feiereisen
Agent For Applicant
Reg. No: 31,084

Date: December 23, 2002
350 Fifth Avenue
Suite 3220
New York, N.Y. 10118
(212)244-5500
HMF:af